

CLAIMS

We claim:

1. A robotic apparatus comprising:
 - (a) a robot comprising a controller adapted to process a signal to an actuator;
 - (b) a sensor in communication with a user to sense input of said user and to communicate signal of said sensor with said robot; and
 - (c) said actuator adapted to receive said signal and to actuate a part of said robot in response to said user input exceeding a defined threshold;
 - (d) wherein said sensor is in wireless communication with said robot.
2. The apparatus of claim 1, further comprising said robot having a sensor.
3. The apparatus of claim 1, wherein said input of said user is physical.
4. The apparatus of claim 1, wherein said sensor is secured to said user.
5. The apparatus of claim 1, wherein said sensor is secured to a console.
6. The apparatus of claim 2, wherein said sensor is a biometric sensor whose input is selected from the group consisting of: position, velocity, acceleration, force, auditory, thermal, electrical, optical, and combinations thereof.
7. The apparatus of claim 1, wherein said robot part is selected from the group consisting of: an arm assembly, a leg assembly, a head assembly, facial components, any actuator in communication with the controller, and combinations thereof.

8. The apparatus of claim 1, further comprising a computer to store data received from said sensor.
9. The apparatus of claim 8, wherein said computer is mounted in a location selected from the group consisting of: internal to said robot, internal to said sensor, external to said robot, and combinations thereof.
10. The apparatus of claim 1, further comprising an operator interface to modify configuration of said robot.
11. The apparatus of claim 10, wherein said operator interface includes a menu to select an interactive mode of operation between said robot and said user.
12. The apparatus of claim 10, wherein said operator interface allows an operator to evaluate said user input.
13. The apparatus of claim 10, wherein said operator interface is accessible from a location remote from said robot and said user.
14. The apparatus of claim 10, wherein said operator interface allows an operator to program an unique interactive mode of operation.
15. The apparatus of claim 1, wherein said robot is selected from the group consisting of: a physical apparatus, a virtual apparatus, and combinations thereof.
16. A method for controlling a robotic apparatus comprising:
 - (a) reading sensor data in communication with said apparatus;
 - (b) processing sensor data;

- (c) transmitting said sensor data over a wireless connection from said sensor to a receiver in communication with said apparatus;
- (d) parsing said sensor data; and
- (e) activating an actuator of said robot in response to said parsed data.

- 5 17. The method of claim 16, further comprising the step of providing feedback from said apparatus to a user.
18. The method of claim 17, wherein said feedback is biometric feedback selected from the group consisting of: visual, tactile, auditory, and combinations thereof.
19. The method of claim 16, wherein the step of processing said sensor data includes processing physical input signals.
20. The method of claim 16, further comprising the step of directly transmitting said sensor data to said apparatus for controlling said actuator of said apparatus in real-time.
- 15 21. The method of claim 16, wherein the step of processing said sensor data includes functions selected from the group consisting of: analog to digital converting, compressing said data, mapping said data, thresholding said data, filtering said data, encrypting said data, pattern recognition, and combinations thereof.
- 20 22. The method of claim 16, wherein the step of parsing said sensor data includes functions selected from the group consisting of: analog to digital converting, de-encrypting said data, de-compressing said data, pattern recognition, mapping said data, filtering said data, thresholding said data, and combinations thereof.
23. The method of claim 16, further comprising the step of recording said sensor data.

24. The method of claim 23, further comprising the step of retrieving said recorded sensor data and playing said data for activating select parts of said apparatus associated with said data.
25. The method of claim 23, wherein the step of recording said sensor data includes saving said data in a medium in communication with an apparatus selected from the group consisting of: said sensor, said apparatus, a remote console, and combinations thereof.
26. The method of claim 23, further comprising the step of accessing said sensor data from a remote location for evaluation of said data.
27. The method of claim 16, further comprising the step of providing interactive communication between said sensor and said apparatus.
28. The method of claim 16, further comprising the step of modifying configuration of said apparatus through an operator interface in wireless communication with said apparatus.
29. The method of claim 28, wherein the step of modifying configuration of said apparatus includes modifications selected from the group consisting of: mapping of said sensor data from said operator interface to said apparatus, modifying thresholds and gains, selecting a platform for interactive communication attributes of said apparatus, and combinations thereof.
30. The method of claim 16, further comprising the step of connecting said apparatus to a communication network.

31. The method of claim 16, further comprising the step of connecting a remote console to a communication network.
32. An article comprising:
a computer-readable signal-bearing medium;
means in the medium for sending data over a wireless connection;
means in the medium for communicating activation of a signal in a remote robotic apparatus;
means in the medium for remotely setting configuration parameters of a sensor and an actuator of said robotic apparatus; and
means in the medium for providing dynamic interaction between said robotic apparatus and a user in communication with said robotic apparatus.
33. The article of claim 32, wherein the medium is selected from the group consisting of :a recordable data storage medium, a modulated carrier signal, and combinations thereof.
34. The article of claim 32, wherein said means for communicating activation of a signal is a communication protocol.
35. The article of claim 32, wherein said means for remotely setting configuration parameters is a graphical user interface.
36. The article of claim 32, wherein said configuration parameters are selected from the group consisting of : mapping, calibration, thresholding and gains, and combinations thereof.
37. The article of claim 32, further comprising conducting real-time assessment of signal data in said medium.

38. The article of claim 32, further comprising providing remote interaction between an operator to said robotic apparatus in real-time in said medium.
39. The article of claim 38, wherein said remote interaction includes retrieving a set of instructions to provide interactive communication between said robotic apparatus and said user.
40. The article of claim 32, further comprising saving said data in said medium.
41. The article of claim 32, further comprising transmitting said data to a computer remote from said robotic apparatus.
42. The article of claim 41, further comprising conducting assessment of said data.
43. A wireless signal communication system comprising:
(a) a sensor in remote communication with an actuator;
(b) a power control module;
(c) a transceiver; and
(d) a central processing unit.
44. The system of claim 43, wherein said transceiver and said central processing unit are adapted to receive and process sensor data and to transmit said data to said actuator.
45. The system of claim 43, further comprising a plurality of wireless sensors in communication with a single central processing unit.
46. The system of claim 45, wherein said plurality of sensors are physically connected.

47. The system of claim 43, further comprising a plurality of central processing units with each unit comprising a plurality of connected sensors.
48. The system of claim 43, wherein said actuator is selected from the group consisting of: virtual and physical, and combinations thereof.
49. The system of claim 43, wherein said transceiver and said central processing unit are connected to a communication network.

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